

5

Claims 1-123 (cancelled).

1 124. (Amended) A method of determining ~~one of a movement direction, spin rate, and~~
2 ~~spin axis orientation of an object, the object having a movement path section that is~~
3 ~~substantially non-curved~~ a projected trajectory of a struck object, comprising the steps of:
4 a) ~~aligning a plurality of electro-magnetic energy transmission paths to be non-parallel to the~~
5 ~~object's substantially non-curved movement path section;~~
6 reflecting electro-magnetic energy from ~~each of the~~ a plurality of transmission
7 paths off the object for at least a portion ~~of the substantially non-curved~~ of the object's
8 initial movement path section upon being struck;
9 receiving the electro-magnetic energy reflected off the object from each of the
10 plurality of transmission paths; and
11 determining ~~one of a movement direction, spin rate, and spin axis orientation of a~~
12 multiple dimensional velocity vector for the object based on the reflected electro-magnetic
13 energy received from each of the plurality of transmission paths ~~and while the object was~~
14 ~~traveling in the at least a portion of the substantially non-curved movement path section;~~
15 determining the spin rate of the object based on the reflected electro-magnetic
16 energy received from each of the plurality of transmission paths;
17 determining the spin axis orientation of the object based on the reflected electro-
18 magnetic energy received from each of the plurality of transmission paths; and
19 determining the projected trajectory of the struck object based on the determined
20 multiple dimensional velocity vector, determined spin rate, and determined spin axis
21 orientation.

1

1 125. (Amended) The method of determining ~~one of a movement direction, spin rate,~~
2 ~~and spin axis orientation of an object, the object having a movement path section that is~~
3 ~~substantially non-curvilinear~~ a projected trajectory of a struck object of claim 124, further
4 comprising ~~the step of~~ applying an electro-magnetic contrasting mark to the object.

1 126. (Amended) The method of determining ~~one of a movement direction, spin rate,~~
2 ~~and spin axis orientation of an object, the object having a movement path section that is~~
3 ~~substantially non-curvilinear~~ a projected trajectory of a struck object of claim 124, further
4 comprising the step of applying a symmetrically shaped electro-magnetic contrasting mark to
5 the object.

1 127. (Amended) The method of determining ~~a movement characteristic of an object a~~
2 projected trajectory of a struck object of claim 124, wherein the object is a golf ball and the
3 ~~substantially non-curvilinear~~ initial movement path section is located within several feet of
4 the location of where the ~~golf ball~~ object is struck.

1 128. (Amended) The method of determining ~~a movement characteristic of an object a~~
2 projected trajectory of a struck object of claim 125, wherein the plurality of transmission
3 paths includes at least two transmission paths.

1 129. (Amended) The method of determining ~~a movement characteristic of an object a~~
2 projected trajectory of a struck object of claim 125, wherein the plurality of transmission
3 paths includes at least three transmission paths.

Claims 130-133

Cancelled.

1 134. (Amended) An apparatus for determining ~~one of a movement direction, spin rate,~~
2 ~~and spin axis orientation~~ a projected trajectory, comprising:
3 ~~———— a moving striable object, the object having a movement path section that is~~
4 ~~substantially non-curved;~~
5 a plurality of sensors, ~~each sensor having an electro-magnetic energy transmission~~
6 ~~path that is aligned to be non-parallel to the object's substantially non-curved movement~~
7 ~~path section,~~ each sensor reflecting electro-magnetic energy along its transmission path off
8 the object's initial movement path section upon being struck ~~the object for at least a portion~~
9 ~~of the substantially non-curved movement path section,~~ and each sensor receiving
10 electro-magnetic energy reflected off the object; and
11 means for determining ~~one of a movement direction~~ multiple dimensional velocity
12 vector, the spin rate, and the spin axis orientation of the object based on the electro-magnetic
13 energy received at each of the plurality of sensors ~~while the object was traveling in the at~~
14 ~~least a portion of the substantially non-curved movement path section; and~~
15 ~~———— means for determining the projected trajectory of the struck object based on the~~
16 determined multiple dimensional velocity vector, determined spin rate, and determined spin
17 axis orientation.

1 135. (Amended) The apparatus for determining ~~one of a movement direction, spin rate,~~
2 ~~and spin axis orientation~~ a projected trajectory of claim 134, wherein the striable object
3 includes an electro-magnetic contrasting mark.

1 136. (Amended) The apparatus for determining ~~one of a movement direction, spin rate,~~
2 ~~and spin axis orientation~~ a projected trajectory of claim 134, wherein the striable object is a
3 golf ball and the ~~substantially non-curved~~ initial movement path section is located within
4 several feet of the location of where the ~~golf ball~~ object is struck.

1 137. (Amended) The apparatus for determining ~~one of a movement direction, spin rate,~~
2 ~~and spin axis orientation~~ a projected trajectory of claim 135, wherein the plurality of sensors
3 includes at least three sensors.

Claims 138-140

Cancelled.

1 141. (twice amended) A ~~ball~~ striable object adapted for determination of ~~one of the~~
2 ~~ball's~~ the object's project trajectory when struck based on a multiple dimensional velocity
3 vector, a spin rate, and a spin axis orientation of the object, comprising:
4 a symmetrically shaped area having a electro-magnetic contrast different
5 from the ~~ball~~ object remainder, the area configured to enable the determination of
6 ~~a three dimensional velocity vector for the ball~~ a multiple dimensional velocity
7 vector, a spin rate, and a spin axis orientation of the object based on electro-
8 magnetic energy reflected off the ball from a plurality of transmission paths ~~and~~
9 ~~one of the ball's movement direction, spin rate, and spin axis orientation based on~~
10 ~~the three dimensional velocity vector.~~

1 142. (cancelled).

1 143. (Twice Amended) The ~~ball~~ striking object adapted for determination of ~~one of~~
2 ~~the ball's~~ the object's project trajectory when struck based on a multiple dimensional velocity
3 vector, a spin rate, and a spin axis orientation of the object of claim 141, wherein the plurality
4 of areas have a circular shape.

1

Claims 144-150

Cancelled.